South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201-1708

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MEMORANDUM

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THRU: Jack Gelting, Section Manager
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SUBJ: Evaluation of ESAB Welding Products's status under the RCRIS Corrective Action Environmental Indicator Event Codes (CA725 and CA750)
EPA I.D. Number: SCD 005 574 967

I. PURPOSE OF MEMO

This memo is written to formalize an evaluation of ESAB Welding Product's status in relation to the following RCRIS corrective action codes:

1) Human Exposures Controlled Determination (CA725),

2) Groundwater Releases Controlled Determination (CA750).

The applicability of these event codes adheres to the definitions and guidance provided by the Office of Solid Waste (OSW) in the July 29, 1994, memorandum to the Regional Waste Management Division Directors.

The State of South Carolina became authorized, in January 1995, for implementing those portions of RCRA covered under the

HSWA Corrective Action process. The recommendations provided in this document have been generated in cooperation with the USEPA Region IV staff through the use of EPA's current Environmental Indicator ranking system.

II. HUMAN EXPOSURES CONTROLLED DETERMINATION (CA725)

There are three (3) national status codes under CA725. These status codes are:

1) YE Yes, applicable as of this date.

2) NA Previous determination no longer applicable as of this data.

3) NC No control measures necessary.

The State of South Carolina, in conjunction with EPA Region IV, has also added a RCRIS status code to CA725 which tracks initial evaluations in which a determination is made that plausible human exposures to current contamination risks are not controlled. This regional status code is listed as "NO, not applicable as of this date." Use of the regional status code is only applicable during the first CA725 evaluation. Evaluations subsequent to the first evaluation will use the national status codes (i.e., YE, NA and NC) to explain the current status of exposure controls.

Note that the three national status codes for CA725 are based on the entire facility (i.e., the codes are not SWMU specific). Therefore, every area at the facility must meet the definition before a YE, NA or NC status code can be entered for CA725. Similarly, the regional status code, NO, is applicable if plausible human exposures are not controlled in any areas of the facility.

This particular CA725 evaluation is the first evaluation performed by EPA for ESAB Welding Products. Because assumptions have to be made as to whether or not human exposures to current media contamination are plausible and, if plausible, whether or not controls are in place to address these plausible exposures, this memo first examines each environmental media (i.e., soil, groundwater, surface water, air) at the entire facility including

any offsite contamination emanating from the facility rather than from individual areas or releases. After this independent media by media examination is presented, a final recommendation is offered as to the proper CA725 status code for ESAB Welding Products. The following discussions, interpretations and conclusions on contamination and exposures at the facility are based on the following reference documents: RCRA Facility Investigation Workplan dated October 30, 1992; Phase I and Phase II RCRA Facility Investigation Report dated January 31, 1992 and February 22, 1994, respectively; Corrective Measures Study Workplan dated April 1, 1996; and 1996 Semiannual Corrective Action Report dated July 31, 1996.

III. MEDIA BY MEDIA DISCUSSION OF CONTAMINATION AND THE STATUS OF PLAUSIBLE HUMAN EXPOSURES

Surface Water and Air

Surface water and air associated with waste management units at ESAB Welding Products are not reasonably expected to be contaminated at this time. Because contamination of surface water and air is not reasonably expected to have occurred, there are no plausible human exposures which must be controlled due to contaminated air or surface water.

Soils

Releases of volatile, semi-volatile and metal constituents from Solid Waste Management Unit (SWMU) 10, also called the Woods Area, have contaminated soils. The Woods Area consists of a series of shallow linear trenches, 100 to 200 feet long and approximately 2 to 3 feet deep, used for waste disposal in the late 1960s and 1970s. Eighteen (18) cubic yards of waste residue and contaminated soils were excavated and disposed of offsite in February 1987, when groundwater contamination in the vicinity of SWMU 10 was first discovered. Soil data collected during the Phase II RCRA Facility Investigation indicate that one semi-volatile organic constituent, bis(2-ethylhexyl) phthalate, may remain in soils at concentrations exceeding its EPA Region III Risk-Based Residential Concentration (RBC).

Of the thirty-two locations sampled, bis(2-ethylhexyl) phthalate was detected at only one location (approximately two

and one half feet below grade) in excess of its residential RBC. Because most residual contaminant concentrations detected in soils during ESAB's RFI Investigations were detected at concentrations below Risk-Based Residential Concentrations for ingestion, no plausible human exposure appears to be present due to contaminated soil at the site.

Groundwater

Although most contaminants remaining in soils at SWMU 10 do not exceed Region III Risk-Based Residential Concentrations for ingestion, contaminant concentrations appear high enough to pose a threat to groundwater quality. A variety of volatile (acetone, 1,2-dichloroethane, 1,1,2,2-tetrachloroehane, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, and xylene), and semi-volatile (bis (2-ethylhexyl) phthalate, bis(2-chloroisopropyl) ether) constituents and nickel were detected in soil at the Woods Area (SWMU 10) at concentrations exceeding generic soil screening levels (Region III Risk Based Concentration Table, January-June 1996). These residual concentrations in soils may be high enough to leach to groundwater with resultant groundwater contamination above acceptable drinking water standards (i.e. maximum contaminant levels, maximum contaminant level goals, or Region III RBCs for tap water).

Despite residual soil contamination above generic soil screening levels, only the volatile constituents and their degradation products have actually been detected in groundwater at concentrations of concern. Two recovery wells (EW-6 and EW-7) were installed in the Woods Area in 1990 as an interim corrective measure. These recovery wells have been operated since 1991 and appear to exert effective control over the groundwater contaminant plume to prevent its offsite migration from SWMU 10. The total concentration of volatile organics dissolved in groundwater in the vicinity of EW-6 have decreased from approximately 1400 to 100 micrograms per liter over the six years that the wells have been operating.

In order to comply with permit condition IV.O.2. of their renewed hazardous waste permit, ESAB installed a new monitoring well (MW-37) at the eastern facility boundary. Monitoring well MW-37 was installed on March 5, 1996 to replace piezometer PZ-19 and sampled for the first time in April. Two volatile organic

constituents (1,1 dichloroethene, and trichloroethene) were detected above Safe Drinking Water Act Maximum Contaminant Levels. The detection of volatile organics in a monitoring well downgradient of the Old Drum Storage Area (SWMU-7) and at the property boundary may indicate offsite migration of a groundwater contaminant plume emanating from this location. Monitoring well MW-37 will be resampled in October 1996 to confirm the presence of 1,1 dichloroethene and trichloroethene at the property boundary.

IV. STATUS CODE RECOMMENDATION FOR CA725:

Soil and groundwater contamination are known to exist at the ESAB Welding Products facility in Florence, South Carolina. Human exposure to contaminated soils at SWMU 10 appears to be of little concern given the low concentrations and limited distribution of contaminants detected within soils in this area. Groundwater contamination is suspected to have migrated offsite downgradient of SWMU-7 (the Old Drum Storage Area).

ESAB is in the process of confirming the presence of contamination at the eastern facility boundary in the MW-37 location. If necessary, ESAB will be evaluating the existing groundwater recovery system (EW-5 and EW-1) operating in this area in an attempt to increase the system's effectiveness. This evaluation is tentatively scheduled to occur during implementation of ESAB's Corrective Measures Study.

Given the presence of a operating groundwater recovery system at ESAB, the overall success of ESAB's groundwater recovery system in controlling plume migration, and the facility's responsiveness in maintaining the recovery system's effectiveness, it is recommended that CA 750 YE be entered into RCRIS for this facility.

V. GROUNDWATER RELEASES CONTROLLED DETERMINATION (CA750)

There are three (3) status codes listed under CA750:

1) Yes, applicable as of this date.

2) NA Previous determination no longer applicable as of this date.

3) NR No releases to groundwater.

SCDHEC, in conjunction with EPA Region IV, has also added an additional status code which tracks the initial evaluations in which a determination is made that groundwater releases are not controlled. This regional status code is listed as "NO, not pplicable as of this date." Use of the regional status code is only applicable in the first CA750 evaluation. Evaluations subsequent to the first evaluation will use the national status codes (i.e., YE, NA and NR) to explain the current status of groundwater control.

Note that the three national status codes for CA 750 are designed to measure the adequacy of actively or passively controlling the physical movement of groundwater contaminated with hazardous constituents above relevant action levels. The point where the success or failure of controlling the migration of hazardous constituents is measured is termed the designated boundary (e.g., the facility boundary, a line upgradient of receptors, the leading edge of the plume as defined by levels above action levels or cleanup standards, etc.). Therefore, every contaminated area at the facility must meet the definition before these event/status codes can be entered. Similarly, the regional status code is applicable if contaminated groundwater is not controlled in any area(s) of the facility.

This evaluation for CA750 is the first formal evaluation performed for ESAB Welding Products. Please note that CA750 is based on the adequate control of **all** contaminated groundwater at the facility.

The following discussions, interpretations and conclusions on contaminated groundwater at the facility are based on the following reference documents: RCRA Facility Investigation Workplan dated October 30, 1992; Phase I and Phase II RCRA Facility Investigation Report dated January 31, 1992 and February 22, 1994, respectively; Corrective Measures Study Workplan dated April 1, 1996; and 1996 Semiannual Corrective Action Report dated July 31, 1996.

VI. STATUS CODE RECOMMENDATION FOR CA750:

Based on data contained in the documents referenced in Section V and summarized in the groundwater portion of Section III, releases near SWMU 7 (the Old Drum Storage Area) may be migrating offsite above revelant action levels. ESAB is in the process of confirming the presence of contamination at the eastern facility boundary in the MW-37 location. If necessary, ESAB will be evaluating the existing groundwater recovery system (EW-5 and EW-1) operating in this area in an attempt to increase the system's effectiveness. This evaluation is tentatively scheduled to occur during implementation of ESAB's Corrective Measures Study.

Given the presence of a operating groundwater recovery system at ESAB, the overall success of ESAB's groundwater recovery system in controlling plume migration, and the facility's responsiveness in maintaining the recovery system's effectiveness, it is recommended that CA 750 YE be entered into RCRIS for this facility.

cc: Syed Ahmed, U.S. EPA Region IV